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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/789,704

02/26/2004

Dieter Stein

12985/3

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06/15/2006

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EXAMINER

DRODGE, JOSEPH W

ART UNIT

PAPER NUMBER

1723

DATE MAILED: 06/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/789,704

Applicant(s)

STEIN ET AL.

Examiner

Joseph W. Drodge

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 6-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>0805</u> . | 6) <input type="checkbox"/> Other: ____.  |

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Claims 18-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Independent apparatus claim 18 is incomplete, since although the claim preamble identifies the claim as an apparatus claim, there are no structural components or apparatus features claimed here or in dependent claim 19.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months before the filing of the application in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 18-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Ciampi patent 6,790,429. Ciampi et al disclose stirred, heated tank, 2<sup>nd</sup> heated tank, decanter, microfilter that may be ceramic, cooling crystallizer, centrifuge, cation exchanger and evaporator (see especially column 14, lines 29-44, column 15, lines 27-30 (for a cooling crystallizer), column 15, line 58-column 16, line 16, and column 20, lines 24-63). Intended use of the system for recovering tartaric acid is given little patentable weight.

Claims 6-22 are rejected under 35 U.S.C. 102(b) and 102(d) as being anticipated by Australian patent publication 199926019, published 11/11/1999 as patent 749,707.

For independent claims 6 and 18, the publication discloses a process for the continuous recovery of free tartaric acid from raw materials containing at least 5.0 wt % potassium hydrogentartrate in dry matter comprising mixing the raw materials with water and dissolving potassium hydrogentartrate to form a suspension, decanting the suspension to obtain a clarified liquid (all disclosed in the Abstract), subjecting the clarified liquid to a microfiltration to form a microfiltration filtrate (last paragraph of page 2), vacuum cooling the microfiltration filtrate to crystallization temperature to form potassium hydrogentartrate crystals (1<sup>st</sup> paragraph of page 4), centrifuging the potassium hydrogentartrate crystals (last line of page 2), dissolving the potassium hydrogentartrate crystals in water (1<sup>st</sup> paragraph of page 4), removing the potassium from the aqueous potassium hydrogentartrate solution by ion exchange (2<sup>nd</sup> paragraph of page 4), and forming tartaric acid crystals by evaporating the tartaric acid solution (paragraph bridging pages 4 and 5).

For claims 7 and 19, the raw material is wine yeast, tartar, or a byproduct material obtained during wine preparation (1<sup>st</sup> paragraph of the Description on page 1).

For claim 8, the filtrate is obtained by a microfiltration of aqueous tartar solution added to the filtrate provided for the cooling crystallization (pages 2-4).

For claims 9-16, recycling of liquid obtained during microfiltration or other process steps including the crystallization steps is disclosed at (page 3, 2<sup>nd</sup> full paragraph, and 1<sup>st</sup> and 2<sup>nd</sup> paragraph of page 4, etc.)

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For claim 17, the cooling crystallization is performed at a temperature of 5 to 15 degrees C (page 4, lines 3-4).

For claim 20, the apparatus comprises a stirred heatable tank 2 containing the suspension, a decanter 7, a microfilter 5, a cooling crystallizer 15, a centrifuge (page 2, last line), a heated tank 22, a cation exchanger 26, and an evaporator 35.

For claim 21, the decanter has a screw or screen discharge (page 4, lines 5-8 of the 1<sup>st</sup> paragraph referring to a "band filter").

For claim 22 the microfilter is ceramic and has a pore size of 0.05 to 0.6 gm (page 5, last 2 lines).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

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were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 6-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Falcone patent 4,781,809 in view of Collins et al patent 6,670,505. For independent claims 6 and 18, Falcone discloses a process for the continuous recovery of free tartaric acid from raw materials containing at least 5.0 wt % potassium hydrogentartrate in dry matter comprising mixing the raw materials with water and dissolving potassium hydrogentartrate to form a suspension, and decanting the suspension to obtain a clarified liquid and also discloses plural cooling or crystallization and ion exchanging steps (see especially column 2, lines 18-30 and column 3, lines 22-30). Various carboxylic, food grade acids, including tartaric as well as malic, succinic, lactic and citric acid can be processed by the Falcone process.

The claims differ in requiring microfiltration, centrifuging and evaporation steps for obtaining the tartaric acid. However, Collins discloses purification and concentration of various food grade carboxylic acids including tartaric acid (column 4, lines 41-57) by process steps including the subject microfiltration, centrifugation and evaporation steps (see especially column 9, lines 41-55 and column 10, lines 35-39 for Example 1 and in other Examples). It would have been obvious to one of ordinary skill in the art to have included the microfiltration, centrifugation and evaporation steps taught by Collins in the

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Falcone process, so as to more completely remove contaminants, including organic, biological and solids, originating in the original fermentation processes or from other chemical and biological processes.

For claims 7 and 19, the raw material is wine yeast, tartar, or a byproduct material obtained during wine preparation (column 2, lines 18-21 of Falcone).

For claims 8-16, various recycling steps for returning liquids or solutions from any stage of the process to any upstream stage is taught by Collins at column 9, lines 56-64.

For claim 17, performing crystallization at low temperatures of about 5 to 15 degrees C and under partial vacuum are suggested by Collins at column 10, lines 37-44 and in other Examples.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tazawa et al patent 4,889,743; Wucherpfennig et al patent 4,560,565 and Philip patent 3,963,700 are all of general interest with respect to methods of isolating and purifying tartaric acid from solutions or crystals of potassium hydrogentartrate.

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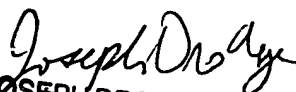
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Drodge at telephone number 571-272-1140. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker, can be reached at 571-272-1151. The fax phone number for the examining group where this application is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either private PAIR or Public PAIR, and through Private PAIR only for unpublished applications. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JWD

June 9, 2006

  
JOSEPH DRODGE  
PRIMARY EXAMINER